

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Trade Name **TRANSFORMER®**

Other means of identification Not applicable

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Soil Conditioner

Uses advised against None Known

1.3 Details of the supplier of the safety data sheet

Manufacturer

Oro Agri, Inc.
 2788 S. Maple Ave
 Fresno, CA 93725
 Telephone Number: +1 (559) 442-4996
 Email: SDS-NA@oroagri.com

Distributor

Agrisource (2000) Ltd,
 45 Kitchener Road,
 Pukekohe 2120, New Zealand
 Telephone Number: 09 237 0442

1.4 Emergency telephone number

For Hazardous Materials [or Dangerous Goods] Incidents,
 Spill, Leak, Fire, Exposure, or Accident
 Call CHEMTREC Day or Night
 Within New Zealand: +(64)-98010034
 Outside New Zealand: +1(703)527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

According to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

2.2 Label elements

Classification according to GHS

<u>Hazard statement</u>	<u>Hazard class</u>	<u>Category</u>
H226	Flammable liquid.	3
H319	Serious eye damage/eye irritation.	2
H361	Reproductive toxicity.	2

Labelling

- Signal word **WARNING**

- Pictograms



Hazard statements

Flammable liquid and vapour. Causes serious eye irritation. Suspected of damaging fertility or the unborn child.

Precautionary statements - prevention

Code	Precautionary statements - prevention
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action against static discharge.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Code.	Precautionary statements - response.
--------------	---

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P337+P317	If eye irritation persists: Get medical help.
P370+P378	In case of fire: Use water fog, foam, dry chemical powder, carbon dioxide to extinguish.

Code	Precautionary statements - storage
-------------	---

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Code	Precautionary statements - disposal
-------------	--

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
------	---

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not relevant (mixture)

3.2 Mixtures**Description of the mixture**

Alcohol Ethoxylate (CAS 84133-50-6) 15 - 25%

Orange Oil (CAS 8028-48-6) 5 - 15%

Proprietary mixture* 60 - 80%

*Components, CAS numbers and/or concentrations not listed are either non-hazardous, below reporting limits or have been withheld as trade secrets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off all contaminated clothing immediately. If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wash contaminated clothing before re-use.

Following inhalation

Move to fresh air and keep at rest in a position comfortable for breathing. Call a Physician if symptoms develop or persist.

Following skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

Following eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth. Get medical attention if symptoms occur. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3 Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

5.4 General fire hazards

Flammable liquid and vapour. Does not sustain combustion.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid inhalation of vapours and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breast-feeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	Ceiling-C [mg/m ³]	Source
New Zealand	Proprietary component		5			WES
New Zealand	Proprietary component	150	474			WES
New Zealand	Proprietary component	1,000	1,880			WES

Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Provide easy access to water supply and eye wash facilities.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear safety glasses with side shields (or goggles). Wear a face shield if there is a risk of splashing.

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

- Other protection measures

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wash hands thoroughly after handling.

Respiratory protection

When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. Chemical respirator with organic vapor cartridge and full-face piece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state	Liquid
Colour	Green
Odour	Citrus
Odour threshold	Not determined
pH (value)	6.8 - 7.8
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	36°C (96.8°F) - (Pensky-Martens closed cup)
Evaporation rate	Not determined
Flammability (solid, gas)	Not relevant(liquid)
Lower and upper explosion limit	Data are not available
Vapor pressure	Not determined
Density	0.95 – 1.10 g/cm ³
Vapour density	Not determined
Relative density	Not determined
Solubility(ies): Water solubility	Completely
Partition coefficient: n-octanol/water (log KOW)	Not available
Auto-ignition temperature	Not determined
Dynamic viscosity	80 – 150 mPa s
Kinematic viscosity	Not determined
Decomposition temperature	Not available
Particle characteristics	Not relevant(liquid)

9.2 Other information There is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

If heated

Risk of ignition

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lightning/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Sulphur oxides. Sodium oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure

Inhalation

Prolonged inhalation may be harmful.

Skin contact

Prolonged skin contact may cause discomforts.

Eye contact

Causes serious eye irritation.

Ingestion

May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Mild eye irritation. Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects

Acute toxicity

Not expected to be acutely toxic.

TRANSFORMER (CAS Mixture)				
Exposure route	Endpoint	Value	Species	Method
Oral	LD50	>2,000 mg/kg	Rat	OECD 423
Inhalation: dust/mist	LC50	>3.69 mg/l/4h	Rat	OECD 403
Dermal	LD50	>2,000 mg/kg	Rat	OECD 402

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Skin contact**TRANSFORMER**

OECD 404

Result: Non-irritant

Species: Rabbit.

Serious eye damage/eye irritation

Causes serious eye irritation.

Eye contact**TRANSFORMER**

OECD 405

Result: Mild irritant

Species: Rabbit.

Respiratory sensitization

Not a respiratory sensitizer.

Skin sensitisation

Non-sensitizer.

Sensitization**TRANSFORMER**

OECD 406

Result: Non-sensitizing

Species: Guinea pig.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans				
Name of substance	CAS No	Classification	Remarks	Date indication
Ethanol	64-17-5	1	In alcoholic beverages	2012

Legend

1 Carcinogenic to humans

-IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Not listed.

-NTP Report on Carcinogens

Not Listed.

-OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not Listed.

Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility. Data are not available.

Specific target organ toxicity (STOT)**- Specific target organ toxicity - single exposure**

Not Available.

- Specific target organ toxicity - repeated exposure

Not Available.

Aspiration hazard

Not Available.

Chronic effects

Prolonged inhalation may be harmful.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

This product is not classified for environmental hazardous under the Health and Safety at Work (Hazardous Substances) Regulations 2017. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2 Persistence and degradability

No data is available on the degradability of this product.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Data are not available.

12.7 Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1 Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local / regional / national / international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 RID/ADR

Not regulated as dangerous goods. See additional information in this section.

14.2 IATA

Not regulated as dangerous goods. See additional information in this section.

14.3 IMDG

Not regulated as dangerous goods. See additional information in this section.

14.4 Transport in bulk according to Annex II of MARPOL 73/78 and IBC code

Not applicable.

14.5 Additional Information

Test results from Sustained Combustion testing (L2 of Part 3 section 32 of UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria) indicate that this material does not sustain combustion. At the discretion of the shipper, this material does not need to be considered a Dangerous Good when offered for transport by ground in the U.S. according to 49 CFR 173.120(b)(3), by air according to IATA DGR section 3.3.1.3(a), or by sea according to IMDG Code chapter 2.3.1.3.1.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations (New Zealand)

New Zealand Inventory of Chemicals (NZIoC)

All ingredients are listed or exempt from listing.

National inventories

Country	Inventory	On inventory (yes/no)*
AU	AIIC	Yes
CA	DSL	Yes
CA	NDSL	No
CN	IECSC	Yes
EU	ECSI	No
EU	REACH Reg.	No
JP	CSCL-ENCS	No
KR	KECI	Yes
NZ	NZIoC	Yes
PH	PICCS	Yes
US	TSCA	Yes

Legend

AIIC	Australian Inventory of Industrial Chemicals
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TSCA	Toxic Substance Control Act

SECTION 16: Other information

Revision Date: 2023-09-27

Version number: GHS 1.0

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances).
Ceiling-C	Ceiling value.
DGR	Dangerous Goods Regulations (see IATA/DGR).
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations.
IARC	International Agency for Research on Cancer.
IATA	International Air Transport Association.

Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA).
IMDG	International Maritime Dangerous Goods Code.
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval.
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval.
NLP	No-Longer Polymer.
PBT	Persistent, Bioaccumulative and Toxic.
ppm	Parts per million.
STEL	Short-term exposure limit.
TWA	Time-weighted average.
vPvB	Very Persistent and very Bioaccumulative.
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants.

Key literature references and sources for data

Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. ORO AGRI cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with this product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage, and disposal of the product, and to assume liability for loss, injury, damage, or expense due to improper use. As conditions of actual product use are beyond the control of the supplier, it is assumed that users of this material have been fully trained in accordance with all applicable occupational health and safety requirements.

The information in this sheet was written based on the best knowledge and experience currently available and was obtained from sources considered accurate and reliable. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. No warranty, expressed or implied, is made and ORO AGRI will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this SDS. ORO and TRANSFORMER are registered trademarks of Oro Agri, Inc.

Copyright© 2023 Oro Agri, Inc.

All Rights Reserved.

End of SDS